

Title (en)

BONDING OF CARBON-CARBON COMPOSITES USING TITANIUM CARBIDE

Title (de)

BINDUNG VON KOHLENSTOFF-KOHLENSTOFF-VERBUNDSTOFFEN MITTELS TITANCARBID

Title (fr)

PROCEDE DE RELIER DE COMPOSITES CARBONE-CARBONE A L'AIDE DE CARBONE DE TITANE

Publication

EP 1999089 B1 20091216 (EN)

Application

EP 07759470 A 20070327

Priority

- US 2007065026 W 20070327
- US 39125506 A 20060329

Abstract (en)

[origin: WO2007115022A1] Method of joining carbon-carbon composite pieces together, e.g. in the refurbishment of aircraft brake discs. The method includes: providing a first carbon-carbon composite piece and a second carbon-carbon composite piece, wherein the second piece has a surface that is complementary to a surface of the first piece; providing a layer of a mixture of titanium powder and carbon powder on the first complementary mating surface; arranging the second piece on the powder layer such that the second complementary mating surface is matched to the first complementary mating surface, thereby forming a construct of the first piece, the powder layer, and the second piece; placing the construct into a press and applying pressure to the construct to press together the two pieces joined at their complementary surfaces; and applying an electrical current to the powder in the construct to initiate an oxidation-reduction reaction, thereby bonding the carbon-carbon composite pieces together.

IPC 8 full level

C04B 37/00 (2006.01); **B32B 18/00** (2006.01); **C04B 35/83** (2006.01); **F16D 69/02** (2006.01)

CPC (source: EP US)

C04B 35/83 (2013.01 - EP US); **C04B 37/003** (2013.01 - EP US); **C04B 37/005** (2013.01 - EP US); **F16D 69/023** (2013.01 - EP US); **B32B 2315/02** (2013.01 - EP US); **C04B 2235/3843** (2013.01 - EP US); **C04B 2235/404** (2013.01 - EP US); **C04B 2235/422** (2013.01 - EP US); **C04B 2235/425** (2013.01 - EP US); **C04B 2235/5436** (2013.01 - EP US); **C04B 2235/5445** (2013.01 - EP US); **C04B 2235/604** (2013.01 - EP US); **C04B 2237/083** (2013.01 - EP US); **C04B 2237/385** (2013.01 - EP US); **C04B 2237/708** (2013.01 - EP US); **F16D 2069/005** (2013.01 - EP US); **F16D 2200/0047** (2013.01 - EP US); **F16D 2250/0061** (2013.01 - EP US); **Y10T 428/30** (2015.01 - EP US)

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

WO 2007115022 A1 20071011; DE 602007003819 D1 20100128; EP 1999089 A1 20081210; EP 1999089 B1 20091216; RU 2008142851 A 20100510; US 2007235126 A1 20071011; US 7858187 B2 20101228

DOCDB simple family (application)

US 2007065026 W 20070327; DE 602007003819 T 20070327; EP 07759470 A 20070327; RU 2008142851 A 20070327; US 39125506 A 20060329